AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the above-identified application:

Listing of Claims:

1. (Currently Amended) A high volume air sampler system ~~pressure reduction apparatus~~ for use on an aircraft comprising:

an air source;

a turbine engine bleed valve coupled to said air source;

a source hose coupled to said bleed valve;

a pressure reduction apparatus coupled to said source hose, the pressure reduction apparatus comprising:

a hollow vessel coupled to said source hose, said hollow vessel including ~~defining~~ an interior and an exterior, an inlet, and a port to allow air to exit the vessel; and

a valve affixed to said inlet ~~vessel~~ to allow air to enter said vessel and to prevent air from exiting said vessel through said valve; and

~~said vessel further defining a port to allow air to exit said vessel~~

a high volume air sampler coupled to and disposed downstream of said pressure reduction apparatus, said high volume air sampler comprising:

an adapter coupled to said pressure reduction apparatus, said adapter including a body having a first section, a second section, and an interior surface defining a cavity, said body first section having an opening formed therein that is in communication with said cavity, said body second section having a sample port formed therein that is in communication with said cavity, said sample port having a diameter that is smaller than the diameter of the opening; and

a canister coupled to said adapter having an inlet opening, an exit opening, an interior region that defines a passage between said inlet and exit openings, and an adsorbent resin disposed within said passage.

2. (Currently Amended) The ~~apparatus~~ system according to claim 1 wherein said valve prevents air from exiting said vessel through said valve.

3. (Currently Amended) The ~~apparatus~~ system according to claim 1 wherein said valve comprises a ball valve.

4. (Currently Amended) The ~~apparatus~~ system according to claim 1 wherein said apparatus comprises aluminum.

5. (Currently Amended) The ~~apparatus~~ system according to claim 1 wherein said apparatus comprises aluminum alloy.

6. (Currently Amended) The ~~apparatus~~ system according to claim 1 further comprising a pressure gauge for measuring air pressure in the interior of said vessel.

7. (Currently Amended) The ~~apparatus~~ system according to claim 1 further comprising a temperature gauge for measuring air temperature in the interior of said vessel.

8. (Currently Amended) A high volume air sampler system ~~vessel~~ for reducing the temperature and pressure in air drawn from a gas turbine engine comprising:

a pressure reduction apparatus comprising:

a vessel body configured to receive the air from the gas turbine engine having an exterior, [[and]] a substantially hollow interior, and an exit port providing fluid communication between the interior and the exterior of said vessel body; and

a valve affixed to said vessel body providing fluid communication between the exterior and the interior of said vessel body wherein said valve permits air to enter said vessel body and prevents air from exiting said vessel body;

a transfer tubing coupled to said valve; and

a high volume air sampler coupled to said transfer tubing, said high volume air sampler comprising:

an adapter coupled to said transfer tubing, said adapter including a body having a first section, a second section, and an interior surface defining a cavity, said body first section having an opening formed therein that is in communication with said cavity, said body second section having a sample port formed therein that is in communication with said cavity, said sample port having a diameter that is smaller than the diameter of the opening; and

a canister coupled to said adapter having an inlet opening, an exit opening, an interior region that defines a passage between said inlet and exit openings, and an adsorbent resin disposed within said passage.

~~said vessel body further defining an exit port providing fluid communication between the interior and the exterior of said vessel body.~~

9. (Currently Amended) The ~~apparatus~~ system according to claim 8 wherein said vessel body is of sufficient dimension such that air entering said vessel body is reduced in pressure and temperature in the interior of said vessel body.

10. (Currently Amended) The ~~apparatus~~ system according to claim 8 wherein the interior of said vessel body defines a sufficient volume such that air admitted to said vessel body from a gas turbine engine is sufficiently reduced in temperature and pressure at the interior of said vessel body for testing for the presence of inorganic compounds.

11. (Currently Amended) The ~~apparatus~~ system according to claim 8 wherein the interior of said vessel body defines a sufficient volume such that air admitted to said

vessel body from a gas turbine engine bleed valve is reduced in temperature and pressure at the interior of said vessel body to approximately ambient conditions.

12. (Currently Amended) The ~~apparatus~~ system according to claim 8 wherein said vessel body is composed partially of aluminum.

13. (Currently Amended) The ~~apparatus~~ system according to claim 8 where said vessel body is composed partially of aluminum alloy.

14. (Currently Amended) The ~~apparatus~~ system according to claim 8 where said vessel body is composed partially of stainless steel.

15. (Currently Amended) The ~~apparatus~~ system according to claim 8 further comprising a second valve affixed to the exit port of said vessel body wherein said second valve allows air to exit said vessel body and prevents air from entering said vessel body through said exit port.

16. (Currently Amended) ~~An apparatus~~ A high volume air sampler system for reducing the temperature and pressure in air drawn from a bleed valve of a gas turbine engine comprising:

a pressure reduction apparatus comprising:

a vessel configured to receive air from the gas turbine engine, the vessel having an exterior and a substantially hollow interior; and

a valve affixed to said vessel allowing air to enter said vessel and preventing air from exiting said vessel through said valve;

said vessel further defining a port to allow air to exit said vessel;

a hollow duct with two ends, a first end of said duct drawing air from a bleed valve of a gas turbine engine and a second end of said duct attached to said valve of said vessel;

a hollow tubing with two ends, a first end of said tubing affixed to the port of said vessel, and a second end; and ~~leading air to the exterior of said vessel~~

a high volume air sampler coupled to said second end of said hollow tubing, said high volume air sampler comprising:

an adapter coupled to said hollow tubing, said adapter including a body having a first section, a second section, and an interior surface defining a cavity, said body first section having an opening formed therein that is in communication with said cavity, said body second section having a sample port formed therein that is in communication with said cavity, said sample port having a diameter that is smaller than the diameter of the opening; and

a canister coupled to said adapter having an inlet opening, an exit opening, an interior region that defines a passage between said inlet and exit openings, and an adsorbent resin disposed within said passage.

17. (Currently Amended) The ~~apparatus~~ system according to claim 16 wherein said hollow duct comprises a carbon impregnated Teflon.

18. (Currently Amended) The ~~apparatus~~ system according to claim 16 wherein said hollow duct comprises carbon impregnated silicone.

19. (Currently Amended) The ~~apparatus~~ system according to claim 16 further comprising a second valve affixed to the port of said vessel.

20. (Currently Amended) The ~~apparatus~~ system according to claim 16 wherein said vessel further defines an aperture providing fluid communication between the exterior and the interior of said vessel.

21. (Currently Amended) A method for sampling a high volume of air ~~reducing air pressure and temperature in air drawn~~ from a gas turbine engine, the method comprising the steps of:

directing air at a starting temperature and pressure from [[a]]the gas turbine engine through a hollow duct;

providing a pressure reduction vessel with an exterior and having a hollow interior;

admitting air from said hollow duct into the interior of said pressure reduction vessel; and

leading air from the interior of said vessel at a reduced temperature and pressure relative to the starting temperature and pressure, through a hose, to a high volume air sampler comprising an adapter and a canister, said adapter coupled to the pressure reduction vessel and including a body having a first section, a second section, and an interior surface defining a cavity, said body first section having an opening formed therein that is in communication with said cavity, said body second section having a sample port formed therein that is in communication with said cavity, said sample port having a diameter that is smaller than the diameter of the opening, and said canister coupled to said adapter having an inlet opening, an exit opening, an interior region that defines a passage between said inlet and exit openings, and an adsorbent resin disposed within said passage~~point at the exterior of said pressure reduction vessel~~.

22. (Original) The method according to claim 21 wherein the step of directing air at a starting temperature and pressure from a gas turbine engine through a hollow duct further comprises directing air from a bleed valve of a gas turbine engine at a starting temperature and pressure.

23. (Original) The method according to claim 21 wherein said pressure reduction vessel further comprises a valve and wherein the step of admitting air from said hollow duct into the interior of said pressure reduction vessel further comprises admitting air from said hollow duct through said valve into the interior of said pressure reduction vessel.

24. (Original) The method according to claim 21 further comprising the step of measuring the pressure of air at the interior of said pressure reduction vessel.

25. (Original) The method according to claim 21 further comprising the step of measuring the temperature of air at the interior of said pressure reduction vessel.

26. (Original) The method according to claim 21 wherein said pressure reduction vessel further comprises a sample port and further comprising the step of taking a sample of air from the interior of said pressure reduction vessel through said sample port.

27. (Cancelled).